

Title (en)

Gas turbine engine powered aircraft environmental control system and boundary layer bleed.

Title (de)

Gasturbinenbetriebenes Klimakontroll- und Grenzschichtabsaugsystem für Flugzeuge.

Title (fr)

Système de contrôle de climatisation et d'élimination de la couche limite entraîné par une turbine à gaz pour avion.

Publication

EP 0459816 B1 19941130 (EN)

Application

EP 91304926 A 19910531

Priority

US 53171890 A 19900601

Abstract (en)

[origin: EP0459816A1] An aircraft gas turbine engine is provided with a starting air turbine (50) that is directly connected through the starter gearbox (48) to the high pressure (HP) shaft (38) and is provided with a means to extract excess energy from engine compressor bleed air, return it to the engine, and to start the engine with compressed air from starting air sources, and to cool and provide compressed air for powering the Environmental Control System (ECS) (100) and using the bleed air for cabin refreshening. The air turbine (50) may be connected to a nacelle boundary layer bleed compressor (60) to bleed boundary layer air from a forward portion of the nacelle (200) to reduce nacelle surface drag. The ECS (100) may be provided with a wing boundary layer bleed means (185) which uses a cooling air fan (132) in the ECS (100) to draw cooling air through the heat exchangers (136,110) in the ECS (100) pack from the boundary layer air from a forward portion of the aircraft's wing to reduce its surface drag. <IMAGE>

IPC 1-7

F02C 7/32; **F02C 6/08**; **B64C 21/00**; **F02C 7/277**

IPC 8 full level

B64C 21/02 (2006.01); **B64C 21/00** (2006.01); **B64C 21/06** (2006.01); **B64D 13/06** (2006.01); **B64D 13/08** (2006.01); **B64D 31/02** (2006.01); **F02C 6/08** (2006.01); **F02C 7/277** (2006.01); **F02C 7/32** (2006.01); **F02C 9/18** (2006.01)

CPC (source: EP US)

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Cited by

US9452841B2; EP1329382A3; EP2128404A3; GB2421281A; CN103958347A; EP0517459A1; EP0657351A1; US5490645A; JP2006336652A; EP1728990A3; US7334423B2; FR2976975A1; GB2506543A; GB2506543B; US11208950B2; WO2012045864A1; WO2015183360A3; WO2012175883A1; WO2013079100A1; US8205429B2; US9599023B2; US6968701B2; US10618636B2

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DOCDB simple family (application)

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